



UNITED STATES PATENT AND TRADEMARK OFFICE

JO
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,973	02/25/2004	James Strepek	D5438	4115

30409 7590 09/20/2004

EXAMINER

INTERNATIONAL ENGINE INTELLECTUAL PROPERTY COMPANY
4201 WINFIELD ROAD
P.O. BOX 1488
WARRENVILLE, IL 60555

RIDDLE, KYLE M

ART UNIT

PAPER NUMBER

3748

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/786,973	STREPEK, JAMES
Examiner	Art Unit	
Kyle M. Riddle	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 25 February 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02252004.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Page 9, second to last line, "loop 890" is not shown in the drawings. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings filed on 25 February 2004 are acceptable subject to correction of the informalities indicated on the attached "Notice of Draftsperson's Patent Drawing Review," PTO-948. In order to avoid abandonment of this application, correction is required in reply to the Office action. The correction will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: Page 4, paragraph 10, last sentence should end with a period.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 4, 5, 16, 17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Perez et al. (U.S. Patent 6,273,042).

Perez et al. disclose a rocker arm assembly comprising:

- a valve 47 in the head of an engine cylinder 49 being intake or exhaust (column 3, lines 30-35 and Figure 1);
- a rocker arm 12 (column 15, line 62 and Figures 1 and 2);
- a rocker actuation mechanism in the form of a push rod 22 and cam 26 (column 2, lines 5-10 and Figures 1 and 2);
- a valve actuation device or valve 144 (column 14, lines 52-55 and Figure 15);
- a ball 122 secured to a rocker arm 102 (column 10, lines 58-59) contacting the inner cavity and surface 148 of a socket 124 (column 11, lines 50-58);
- a resilient retainer 216 positioned in an external groove or annular recess 220 (column 16, lines 3-7) to retain the socket 124 on the rocker ball 122 (column 13, lines 7-9);
- a foot extension or bottom flange on socket 124 extending below the annular recess 220 and having a cross-sectional area greater than the annular recess 220, the annular recess 220 being between the foot extension and the cavity opening (Figure 15);

- a ball portion having a pin extension or neck 134 extending to an insert 138 received in a mating pocket in the end 120 of the rocker arm 102 (column 11, lines 1-4).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 6-10, 13-15, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perez et al. in view of Carroll, III et al. (U.S. Patent 5,542,315).

Perez et al. disclose a rocker arm assembly comprising an intake or exhaust valve of an engine cylinder, a rocker arm, a rocker actuation mechanism with a push rod and cam, a valve actuation device or valve, a ball secured to a rocker arm contacting the inner cavity and surface of a socket, a retention device or resilient retainer positioned in an external groove or annular recess to retain the socket on the rocker ball, a foot extension or bottom flange on socket extending below the annular recess and having a cross-sectional area greater than the annular recess, the annular recess being between the foot extension and the cavity opening, and a ball portion having a pin extension or neck extending to an insert received in a mating pocket in the end of the rocker arm. Perez et al. fail to disclose a flange on the pin extension, a pin segment and loop and a foot segment and loop of the retention device, and certain cross-sectional relationships of components.

Re claims 3, 6, 8, 10, 18, and 19, Carroll, III et al. teach ball and socket assembly for actuated members such as valves and valve crossheads (column 5, lines 63-66) comprising a ball

portion 18 with a pin extension 12 and flange or annular ledge 28 between the pin extension and interface surface of a socket and having a cross-section significantly larger than the pin extension 12, a socket 20 with an annular groove below annular ledge 22, a spring steel retainer element 16 comprising a foot segment and foot loop 24 engaging the groove below annular ledge 22, and a pin segment and pin loop 26 engaging the pin extension just above the flange or annular ledge 28 (column 5, lines 1-19 and Figures 1-4).

Re claims 7 and 9, Carroll, III et al. teach the ball and socket assembly where the pin loop and interface surface have smaller cross-sections than the flange or annular ledge 28 (Figures 1-4).

Re claims 13-15, Carroll, III et al. teach the foot segment extending at least partially along a circumference of the external groove below the annular ledge 22, the pin segment extending at least partially along a circumference of the pin extension 12, and a pin segment which forms a plurality of windings around the pin extension 12 (Figures 1-4).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Carroll, III et al. in the ball and socket assembly of Perez et al., since the use thereof would have provided a modified resilient retaining member of lower mass and more flexibility.

8. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perez et al. in view of Carroll, III et al., as applied to claim 6, above, and further in view of design choice.

Perez et al., as modified by Carroll, III et al., disclose the ball and socket assembly cited above, however, fail to specifically cite certain cross-sectional relationships.

With regard to applicant's claim directed to the socket having a smaller cross-section at the exterior groove than the entrance to the ball cavity or foot extension, it appears from the drawings that both Perez et al. and Carroll, III et al. have external grooves meeting this criteria, thereby suggesting the encompassing of the claimed limitation. Moreover, there is nothing in the record which establishes that the application of such specific cross-sectional relationships represents a novel or unexpected result (See *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)).

Conclusion

9. The IDS (PTO-1449) filed on 25 February 2004 has been considered. An initialized copy is attached hereto.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of 5 patents.

- Zahodiakin (U.S. Patent 2,030,345) discloses a valve actuating mechanism with a spring clip disposed between a ball and socket.

- Stirrat (U.S. Patent 3,880,128) discloses a valve actuating mechanism with a spring clip engaging a groove of ball assembly and a rocker arm.

- Seidl (U.S. Patent 4,369,740) discloses a valve actuating lever with a retaining spring engaging a groove of the ball assembly and a rocker lever.

- Schmidt et al. (U.S. Patent 5,775,280) disclose a valve actuating mechanism with multiple retention clamp designs for holding the ball and socket to the rocker arm.

- Kunz (U.S. Patent 6,047,675) discloses a valve actuating subassembly with a retainer clip to hold the ball and socket assembly together.

Communication

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle M. Riddle whose telephone number is (703) 306-3409, and effective 22 November 2004 will be (571) 272-4864. The examiner can normally be reached on M-F (07:30-5:00) Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859 effective 22 November 2004. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kyle M. Riddle
Examiner
Art Unit 3748

kmr



THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700